since $0 = j + j = k + k = \cdots = n + n$, the only $T_{(G)}$ which fulfil these conditions are of the form $T_s = \begin{Bmatrix} 0 & v & \cdots & h & x & \cdots & 2h \\ 0 & 0 & \cdots & 0 & s & \cdots & s \end{Bmatrix}$ where s takes on values $x, y, \cdots, z, 2h$. Therefore, since no two T_s are commutative with respect to addition, there are h rings of endomorphisms in the transformations of a dihedral group of order $2h$, each a field of order 2, containing (0) and T_s.

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PALEONTOLOGY.—*Annotated list of fossil Mammalia associated with human remains at Melbourne, Fla.*[1]

C. LEWIS GAZIN, U. S. National Museum.

Particular interest is attached to the association of Mammalia represented at the fossil site near Melbourne, Fla., not only in the occurrence there of relatively adequate human remains but also in the representation of a so nearly complete fauna at a single locality. Moreover, the association as a whole tends to give evidence for the relatively late Pleistocene survival of many extinct types, at least insofar as Florida is concerned, and at the same time demonstrates an early appearance of man.

Much has been written on the Pleistocene faunas of Florida, particularly by Simpson, Sellards, and Hay, which might appear to render the present report unnecessary. However, it seems advisable that the various localities be treated separately as a matter of record, even though in any particular case the horizon worked may be known to be bed no. 2 or the Melbourne Bone Bed. There remains the possibility, as suggested by Douglas Johnson, that this bed, because of the nature and mode of its accumulation might not everywhere be of the same age. Hence, the fauna at the Melbourne locality in particular, as well as that at Vero, because of the inclusion there of important human remains should be carefully and completely documented. An earlier listing of the Melbourne fauna by Gidley (1927), and as emended by Simpson (1929), preliminary in nature and very incomplete, was based only on collections obtained up to 1926.

The history of the investigation of the Melbourne occurrence, so far as the hominid remains are concerned has been summarized by T. D. Stewart (1946). His reexamination and review of Melbourne Man were well done and constituted a necessary correction of the earlier work of Hrdlička (1937).

Gidley's field work in Florida began in 1925, at which time a joint expedition with F. B. Loomis was arranged to investigate the Melbourne occurrence on the grounds of the Country Club golf course, originally discovered by a local resident, C. P. Singleton. This and Gidley's subsequent seasons were reported in a series of popular accounts in *Explorations and field work of the Smithsonian Institution* for 1925, 1928, 1929, and 1930. Gidley collected there also in 1926, and although he was in Florida in 1927 there is no evidence that he worked at Melbourne that year.

Gidley died shortly after his last season at Melbourne, and not all the collection was unpacked. I have since found that much of it was not carefully labeled, but sufficient evidence remains to demonstrate for any particular form, except as otherwise noted, its occurrence either in bed no. 2 or at the contact plane between beds 2 and 3. In any

[1] Published by permission of the Secretary of the Smithsonian Institution. Received October 10, 1950.

case, the occurrence of human bones beneath the top of no. 2 establishes their contemporaneity with the other Mammalia in the upper part of no. 2 and at the contact plane.

It has been maintained, particularly by Hay (1926), that the evidence furnished by many of the extinct forms in the fauna is for an early Pleistocene age. Although over half of the forms represented are extinct, I see no justification for this conclusion. The large number of extinct types included, however, does argue for a Pleistocene rather than a Recent age assignment. That the stage of the Pleistocene is late is indicated by striking closeness or identity to living forms shown by those representatives of lines which did not become extinct in this area. It has also been suggested that Florida served as a haven for types disappearing in more northerly areas, that the fauna was largely relict. It seems likely that the fauna is residual to a limited extent and that some of the forms died out at earlier dates to the north, but the preponderantly Pleistocene aspect of the fauna cannot be reconciled with a post-Wisconsin age. Were one to postulate survival of such a large number of extinct forms into postglacial time the question arises why some (or more?) did not return northward with the return of more equitable conditions.

The mammalian fauna as recognized is comprised of 50 forms, about 28 of these are extinct, and of the genera, 13 are extinct. There is a strong probability that with the exception of bats and some rodents the fauna obtained is very nearly complete, and in comparison with the living fauna is about 50% larger.

MARSUPIALIA

Didelphis virginiana Kerr

The opossum is well represented in the collection by jaws and teeth, and, as elsewhere in the Pleistocene of North America, cannot be distinguished from the living species.

INSECTIVORA

Scalopus aquaticus (Linnaeus)

Among the assortment of small mammal bones are recognized some 40 of the characteristic humeri of this common mole.

Insectivore?, indet.

A single lower molar of a type resembling that seen in *Blarina*, but considerably larger, and of a different construction than in *Scalopus* is included in the collection. It is much smaller than in *Didelphis virginiana*, although a small marsupial might be represented.

PRIMATES

Homo sapiens Linnaeus

The skull, lower jaw, and other portions of the human skeleton found in bed no. 2, or the Melbourne formation, have been redescribed in detail by T. D. Stewart (1946).

EDENTATA

Megalonyx jeffersonii (Desmarest)

A megalonychid ground sloth of strikingly large size is referred to *M. jeffersonii*. The material consists for the most part of scattered teeth although their arrangement in the collection suggests in some cases associated material. There are in addition broken portions of both rami of a lower jaw, but with no certain association of teeth. An upper and lower caniniform tooth, probably from one individual, measure 130 mm in over-all length, 44 mm in anteroposterior diameter, and 20 mm in transverse diameter for upper tooth and 120 mm in over-all length, 43 mm in anteroposterior diameter, and 17 mm in transverse diameter for the lower tooth.

Megalonyx cf. wheatleyi Cope

A number of isolated teeth, significantly smaller than those referred to *M. jeffersonii* are regarded as representing a distinct species of *Megalonyx*.

Following the suggestion made by Simpson[2] for the Sabertooth Cave material these are tentatively referred to one of the species Cope described from Port Kennedy, *M. wheatleyi*.

Certain foot material, including a navicular, in the Melbourne collection cannot be certainly restricted to this or to *M. jeffersonii*.

Paramylodon cf. harlani (Owen)

Remains of mylodont sloth are scarce at Melbourne. Only a few teeth, nearly all of which are at an immature stage of wear, are recognized as belonging to this type of sloth. These youthful teeth are decidedly conical and show at their small bevelled end an approximation of the mature pattern.

[2] Simpson, G. G., Amer. Mus. Nov. no. 328: 11–13. 1928.

Dasypus bellus (Simpson)

A nine-banded armadillo that Simpson[3] has given the name of *Tatu bellus* is represented in the Melbourne collection by literally hundreds of scutes from all sections of the carapace. I have not examined the lower jaw that Simpson described briefly and identified as coming from Melbourne. It does not appear to be in the collections of the National Museum.

Holmesina septentrionalis (Leidy)

The bulk of sloth material belongs to the giant armadillo that Leidy[4] described from Peace Creek, Fla. The genus *Holmesina* was proposed by Simpson[5] in keeping with a refinement of chlamythere genera of South America made by Castellanos.[6]

In addition to a rather large number of scutes, the Melbourne collection includes elements of a forelimb and isolated foot and toe bones.

Boreostracon floridanus Simpson

In contrast to armadillo representation there are but five or six scutes of glyptodon. These are referred to the species described by Simpson[7] from the Seminole Field locality in Pinellas County.

LAGOMORPHA

Sylvilagus floridanus (Allen)

The Florida cottontail is represented by but four lower jaws. The cheek teeth in these exhibit the relatively simple enamel pattern characterizing the modern material of Florida, and differ from the subspecies *S. floridanus floridanus* only in a slightly greater average size.

Sylvilagus palustris (Bachman)

More than 40 jaws and maxillae are referred to *Tapeti* or the marsh rabbit. There is noticeable variation in size and in the depth and complexity of the tooth enamel crenulations, particularly on the anterior wall of P_3. The fossil material closely resembles the living form. The appearance of "*Lepus*, sp." in the faunal list Gidley (1927) furnished Hay is based on a specimen of *Sylvilagus palustris*.

Sylvilagus palustrellus, n. sp.

Type.—Left ramus of mandible with P_3 to M_2 incl., U.S.N.M. no. 18593.

Horizon and locality.—Melbourne formation, Melbourne, Fla.

Specific characters.—Size about two-thirds that of *Sylvilagus palustris*. Jaw shallow and teeth relatively narrow transversely. Posterior leg of median enamel loop in lower cheek teeth crenulated as in *S. palustris*, but anterior wall of P_3 shows but a single shallow fold.

A second specimen which is undoubtedly of the same species was collected by G. S. Miller on Sugarloaf Key, Fla. in 1935. It has a U.S.N.M. Div. Mammals number 259231. The specimen is light in color, shows evidence of weathering, and has dark, sandy, carbonaceous matrix adhering to it. It is possible that this specimen is a fossil and subrecent in age.

Other, more fragmentary specimens in the Melbourne collection may belong to this species, which may be regarded as a pigmy marsh rabbit.

RODENTIA

Geomys cf. floridanus (Audubon and Bachman)

The Florida gopher is well represented by lower jaws. Considerable size range exists, and on the basis of the material at hand I was unable to distinguish the fossil material from *Geomys tuza*, which is defined as having a more northerly range.

Castoroides cf. ohioensis Foster

A single incisor portion was collected by Gidley in February 1930. There is no locality indicated on the specimen label, but although some excavation work was done this year at Indiantown, the bulk of the collection came from Melbourne. *Castoroides* was also recorded from near Sarasota, Fla., in beds regarded as equivalent to those at Melbourne.

Oryzomys, sp.

Three rather well preserved lower jaws, but lacking cheek teeth, are determined as representing the rice rat. Critical comparisons were not feasible so no specific reference is made.

Sigmodon hispidus Say and Ord

About 15 jaws of cotton rat are preserved, and these show no significant differences from the

[3] SIMPSON, G. G., Bull. Amer. Mus. Nat. Hist. **56**: 579–580. 1929.

[4] LEIDY, JOSEPH, Proc. Acad. Nat. Sci. Philadelphia, 1889: 97.

[5] SIMPSON, G. G., Amer. Mus. Nov. no. 442: 1–10. 1930.

[6] CASTELLANOS, ALFREDO, Centro Estud. de Ingeneria de Rosario, 1927: 1–8.

[7] SIMPSON, G. G., Bull. Amer. Mus. Nat. Hist. **56**: 581–583. 1929.

modern form. In these specimens, as well as in the modern material, considerable variation exists in the presence or absence and state of development reached in the postero-internal enamel fold on first and second lower cheek teeth.

Neotoma floridana (Ord)

The wood rat is well represented considering its scarcity at other Florida occurrences. No differences from the living species were observed other than some of the jaws appear rather large.

Neofiber cf. alleni True

Round-tailed muskrats are second in abundance only to gophers among the rodents in the collections. The fossil material corresponds closely in size to *N. alleni* but the enamel loops of the lower cheek teeth appear less markedly closed on the average, particularly the anterior loop of the last lower molar.

Neochoerus pinckneyi (Hay)

A tooth that appears to be a left P^4 in the Melbourne collection, but without precise locality and horizon data, except for the year 1926, represents the giant capybara. The tooth is approximately 50 per cent larger than in large recent capybaras but does not exhibit the additional external enamel fold on the second plate mentioned by Simpson[8] for the Bradenton, Fla., skull. The Melbourne tooth might be one of the anterior molars, but comparison with *Hydrochoerus isthmius* suggests P^4.

CARNIVORA

Canis (Aenocyon) cf. ayersi Sellards

More than two dozen isolated teeth and a nearly complete right ramus of the mandible are seen as belonging to the Florida dire wolf. Comparison with equivalent material of *C. Aenocyon dirus* from Rancho La Brea reveals that no significant differences are to be found on the basis of lower jaw and tooth material. The principal distinguishing feature of *C. ayersi* is described as the relative long and narrow rostrum of the skull. It remains for future material to demonstrate the persistence of this and certain other characteristics and it should be noted that recent wolves, as well as Rancho La Brea dire wolves, show striking individual variation in skull proportions.

[8] Simpson, G. G., Amer. Mus. Nov. no. 406: 8. 1930.

Canis riviveronis Hay

The coyote, not now living in Florida, is represented at Melbourne, and elsewhere in the Melbourne beds, apparently by the extinct species *C. riviveronis*. The fossil type is very near the western coyote, *Canis latrans*, in size and most dental features, and may not be distinct. However, the shortness of the anterior portion of the upper carnassial, which Hay included in his diagnosis of the Vero species appears reflected in the shortness of the triconid portion of the lower carnassial noticed in the Melbourne material. The coyote is represented at Melbourne by an incomplete right ramus of the lower jaw with M_1 and M_2 and by about 12 isolated teeth.

Urocyon cf. cinereoargenteus Schreber)

A maxillary portion with P^3 and P^4, and about six isolated teeth, including upper and lower carnassials, of gray fox are apparently referrable to the modern species. The maxilla cannot be distinguished from material of the living species, except possibly for a somewhat better developed antero-external angle to the cingulum of the upper carnassial. The lower carnassial does not have a reduced metaconid as described for *Urocyon seminolensis*[9], and no certain evidence of the presence of the red fox *Vulpes* could be found in the Melbourne canid material, although an M^1 and two isolated premolars appear relatively large for *Urocyon*, and probably too small, certainly the molar, for coyote.

Arctodus floridanus (Gidley)

The tremarctine bear *Arctodus floridanus* was described by Gidley (1928) on the basis of material from the Melbourne locality. In addition to the type, which consists of skull fragments with upper canines and molars and the greater part of the left mandibular ramus, there are at least three more lower jaws, a pair of maxillae with teeth, and two dozen or so isolated teeth. Most of these were collected shortly after the description was published. The teeth in the referred maxillae are strikingly smaller than in the type and would appear to represent a distinct species; however, an examination of the extent of size variation of teeth in *Tremarctos* revealed an amazing difference due to sex dimorphism. In the American black bear the dimorphism does not appear to extend to the size of the cheek teeth.

[9] Simpson, G. G., Bull. Amer. Mus. Nat. Hist. 56: 575. 1929.

Ursus (Euarctos) cf. **floridanus** (Merriam)

The greater part of a skull and both lower jaws with most of the teeth, together with a few cervical vertebrae from one individual is referred tentatively to the Florida species of the black bear. Such reference is not intended to imply support to recognition of *U. (E.) floridanus* as of more than a subspecies of *U. (E.) americanus*, but is in keeping with Miller's check list.[10]

With regard to the above specimen the softness of bone in comparison to the better indurated *Arctodus* material leads me to suspect that it might have come from bed "3", as the locality data is incomplete in this respect. There is very little other material in the collection which can be clearly assigned to black bear.

Ursus, sp.

The left half of the rostrum of a skull and a few cervical vertebrae believed to be associated are regarded as representing true *Ursus*. The rostrum of this form is short and deep, and the canine and last upper molar (M^2) are of remarkably large size. In the size of these two teeth no approximation could be found in any of the many black bear skulls in the National Museum examined. On the other hand a favorable comparison was made with small toothed individuals of *Ursus horribilis*, so far as canine and M^2 are concerned, but M^1 and particularly P^4 are noticeably smaller. The cheek teeth in general are only a little larger than those in the type of *Arctodus floridanus* but the inner-cingulum and pattern details of the upper molars, and the structure of the zygomatic wing of the maxilla with the infraorbital canal are not *Arctodus*-like but truly ursine. I suspect a distinctive species is represented, possibly near in size to *Ursus procerus* Miller but in view of the profusion of names which have been applied to recent members of a highly variable animal I hesitate to add to the confusion.

Procyon lotor (Linnaeus)

Nearly 40 jaws, about 6 maxillae, and numerous isolated teeth of raccoon in the Melbourne collection appear referable to the living species *P. lotor*. Although much size variation exists within the material, none of the upper dentitions appeared small enough, or to have exhibited characters suggesting *Procyon nanus* Simpson. However, a few of the isolated lower teeth were noticeably small, but no comparison could be made inasmuch as lower jaw material of *P. nanus* is unknown or undescribed.

Spilogale ambarvalis Bangs

A single right mandibular ramus with P_2 to M_1 inclusive cannot be distinguished from jaws of the spotted skunk representing the present-day Floridian fauna.

Lutra canadensis (Schreber)

The Canadian otter is represented by various subspecies in Florida, and although the Melbourne fossil material cannot be assigned to any of them with assurance there is little doubt but that the otter living in the late Pleistocene at Melbourne, as well as other localities in Florida, was *L. canadensis*.

Panthera augusta (Leidy)

The Melbourne jaguar material has been described and figured by Simpson[11]. His critical analysis of these and other specimens from the Pleistocene of North America has demonstrated that with some degree of probability the various finds which have been referred to such species as *F. augusta* and *F. veronis* are scarcely more than a subspecies of *Panthera onca*. Since then McCrady[12], from additional Tennessee material, has come to the conclusion that *P. augusta* might well be regarded as a distinct species.

The presence of jaguar in the North American Pleistocene was not early recognized, but in the work of Merriam and Stock[13] such a relationship was outlined for *Felis atrox*, and attention was called to similar conclusions by Freudenberg. E. A. Goldman was much impressed by the similarity between *F. atrox* and *F. onca* and succeeded in convincing, by demonstration of material, other zoologists and paleontologists with whom he discussed this relationship. No doubt Gidley regarded the Florida material as jaguar, and Simpson in his review of the "Large Pleistocene Felines of North America" through a careful analytical study of the known specimens substantiated such conclusions and straightened out the taxonomic confusion.

Felis (Lynx) rufa Schreber

Referred to the modern lynx is a rather well

[10] MILLER, G. S., U. S. Nat. Mus. Bull. **128**: 92. 1923.

[11] SIMPSON, G. G., Amer. Mus. Nov. no. 1136: 1–27, figs. 1–11 (1). 1941.

[12] Manuscript in press.

preserved left mandibular ramus with the canine, P_4 and M_1, and in addition there are two jaw portions with premolars only and four isolated upper and lower carnassials. All materials appear to be well within the range of living Florida lynx. The generic name here used is in keeping with Simpson's revision of the felids in his classification of the Mammalia.

Felis, sp.

A smaller cat than the lynx, with more slender teeth, particularly P_4, is represented by a right mandibular ramus with P_4 and M_1. Gidley's specimen label had this indicated as a new species of *Herpailurus*, and derived from bed no. 2 at the Melbourne golf links. The specimen strongly resembles material of the jaguarundi but is a trifle large and deeper jawed, and on the other hand resembles just as closely material of *Felis tigrina glaucula* representing the subgenus *Margay*. These small tropical cats range well up into Mexico, particularly the jaguarundi, which is recorded in Texas. Difficulty attaches to assignment of the fossil to one or the other of the small felids in being unable to certainly distinguish them, one from another, solely on characteristics of the two teeth and portion of the jaw represented by the fossil.

Smilodon cf. floridanus (Leidy)

An isolated upper carnassial of a sabertooth type in all probability represents Leidy's *S. floridanus*. The size of the tooth is but slightly smaller than that which would have occupied the alveolus in the type. The tooth is appreciably smaller than in *Smilodon californicus*, and it is actually slightly shorter than the least dimenion given by Merriam and Stock[14] for the Rancho La Brea specimens.

PROBOSCIDEA

Mammut americanum (Kerr)

The American mastodon is rather adequately represented by two partial skeletons including jaw material and various isolated teeth. I see no reason for regarding the form occurring in the Melbourne bed as distinct from the common Pleistocene species of North America.

[13] Merriam, J. C., and Chester Stock, Carnegie Inst. Washington Publ. **422:** 195–199. 1932.
[14] Merriam, J. C., and Chester Stock, *ibid.*

Mammuthus columbi (Falconer)

According to Hopwood[15] and as supported by Simpson, the Pleistocene mammoth, if not to be included in *Elephas*, has for the earliest available generic name, *Mammuthus*. The bulk of the Melbourne material, consisting for the most part of isolated teeth in the National Museum collections, but including a skeleton now mounted for exhibition at Amherst, belongs without question to the columbian mammoth.

Mammuthus imperator? (Leidy)

Gidley[16] was convinced that certain of the teeth from Melbourne represent the imperial mammoth, presumably from the spacing of the enamel plates, which does about equal that in the type, but these particular Melbourne teeth are not so wide and generally less robust than indicated for *M. imperator* type material. The mammoth teeth in the Melbourne collection regarded as representing *M. columbi* show very considerable variation in spacing of plates and with one so closely spaced as to have suggested to Gidley the presence of "*E. boreus*" as shown by his specimen label.

PERISSODACTYLA

Equus complicatus Leidy

There is among Gidley's collections of various years from Melbourne something over 250 teeth belonging to Pleistocene horses. Of these there appears to be less than two dozen which would be logically referred to *E. complicatus* if more than one species is to be recognized. These are among the largest of the collection, corresponding closely in size to the type of the species.

Equus leidyi Hay

The bulk of the horse teeth, including those in several dentitions and jaws, are of intermediate size, though not sharply separated from *E. complicatus* on this basis, and there is no persistent difference in the pattern of the enamel which can be used to define the species. No attempt is made in this paper to revise the many species of Pleistocene horses; as a consequence the material here encountered is taxonomically arranged as has been done in previous studies of Florida Pleistocene faunas.

[15] Hopwood, A. T., Palaeontologia Sinica, ser. C, **9** (3): 97–98. 1935.
[16] Gidley, J. W., *in* H. F. Osborn, Proboscidea **2**: 996, 1005. 1942.

Equus littoralis? Hay

Scarcely more than 10 or 12 of the isolated teeth can be regarded as small enough to comply with Hay's[17] definition of *E. littoralis*. These teeth exhibit no distinctive dental pattern and no sharp line can be drawn between them and the smaller teeth included under *E. leidyi*. They do, however, form a striking contrast in size with the teeth allocated to *E. complicatus*.

Tapirus cf. **haysii** Leidy

Included in the remains of tapir there is a complete upper cheek tooth series from both sides in which the teeth are relatively large for *Tapirus veroensis*. These approximate the proportions seen in an incomplete skull of *T. haysii* from Port Kennedy. The premolars of the Melbourne specimen are relatively a little larger than in *T. veroensis*. Certain isolated teeth also appear large in comparison with corresponding teeth in the type and referred material of *T. veroensis*.

Tapirus veroensis Sellards

The five lower jaws, several portions of dentitions, and most of the isolated teeth comprising the tapir material from Melbourne are regarded as representing the Vero tapir. The development of the parastyle on the upper cheek teeth does not appear significant in the diagnosis of *T. veroensis* as this cusp is certainly not less developed in the Port Kennedy *T. haysii*. Moreover, the cuspule between the protocone and hypocone seen in the type of *T. veroensis* is not always present, or may be but very slightly developed, in referred material of *T. veroensis*.

ARTIODACTYLA

Platygonus, near **P. compressus** LeConte

Among the fragmentary peccary remains, an incomplete lower jaw including parts of both rami, the symphysial portion and most of the cheek teeth belong to a moderate sized species of *Platygonus*. It corresponds most closely to *P. compressus*, but with teeth a trifle larger. The diastema between the cheek teeth and canines, however, is fully as short as or shorter than in the *P. compressus* specimen which Leidy[18] described from Kentucky, very much shorter and the jaw is shallower than in *P. cumberlandensis*.

[17] HAY, O. P., Proc. U. S. Nat. Mus. **44:** 575–576. 1913.

[18] LEIDY, JOSEPH, Trans. Amer. Philos. Soc. **10:** 331–341, pls. 36, 37. 1853.

Platygonus cf. **cumberlandensis** Gidley

A few of the isolated teeth of Platygonus are of larger size than those belonging to the above species and suggest possibly that *P. cumberlandensis* or a species of equivalent size is represented in the fauna.

Mylohyus gidleyi Simpson

Undoubtedly much of the *Mylohyus* peccary material belongs to the species which Simpson[19] has named *M. gidleyi*. One lower jaw portion with $P_3 - M_1$ corresponds very closely. This specimen shows the relatively small premolars which distinguishes *M. gidleyi* from *Mylohyus exortivus*. Also, there is among the isolated teeth a P_2 that has a single cusp representing the trigonid portion as in *M. gidleyi*. This tooth lacks the parastylid characterizing recent *Tayassu* material.

Mylohyus cf. **exortivus** Gidley

Some of the isolated teeth and partial dentitions of *Mylohyus* are fully as large as in *M. exortivus*, but not so large as in *M. pennsylvanicus*. Moreover, a second P_2 in the collection has its trigonid portion divided as generally characteristic of *Mylohyus*, and as seen in *M. exortivus*.

Tayassu, sp.

At least 10 of the isolated teeth, apparently all upper molars, have the external cingulum too well developed for inclusion in *Mylohyus*. Also, a small number show somewhat more crenulation of the enamel about the cusps than is probable for *Mylohyus*, suggesting that *Tayassu* is represented. The teeth are comparable in size to those in *Tayassu pecari* except for an M^3 that appears relatively narrower.

Tanupolama mirifica Simpson

Eleven isolated teeth and two partial dentitions, together with a few fore limb and foot elements comprise the camelid material in the Melbourne collection. All of this appears to represent a single species belonging to the slender-limbed *Tanupolama*. The form represented cannot be distinguished from that which Simpson[20] has described as *T. mirifica* from the Seminole Field. It is interesting to note that Gidley had prepared specimen labels for some of this material with

[19] SIMPSON, G. G., Bull. Amer. Mus. Nat. Hist. **56:** 591–592, figs. 15, 16B. 1929.

[20] SIMPSON, G. G., *ibid.*: 593–596. 1929.

a new generic name, which would have been valid had he published at that time (1924).

Odocoileus virginianus (Boddaert)

Remains of white-tailed deer are among the most abundant of the mammals represented in the fauna. Numerous horn portions, some of which are nearly complete, several jaws, and many isolated teeth, as well as an assortment of limb bones and vertebrae, are included. Assignment to the virginia deer is in conformity with current taxonomic work in which *O. osceola* is regarded as a subspecies of *O. virginianus*. There appears to be no evidence in the materials at hand of the South American *Blastocerus* which Simpson[21] recognized in the Citrus County Cave.

Cervus? sp.

A single isolated upper cheek tooth of cervid type cannot be referred to *Odocoileus virginianus*. In size it corresponds closely to a Dp^4 of *Cervus canadensis* but does not appear to be a milk tooth. Consideration has been given to the possibility of it being an upper milk tooth of bison but the resemblance in this case seems even more remote. It likely represents an intermediate sized cervid, such as has been noted in various Pleistocene occurrences in this country.

Bison, sp.

An assortment of limb and foot bones, jaw portions, and isolated teeth of a relatively large bison cannot, in the absence of skull and horn material, be identified specifically. Bison material from several Pleistocene occurrences in Florida have been referred to *B. latifrons*, but I am unable to verify its occurrence at Melbourne.

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